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Lemon Water Will Not Boost Your Metabolism

We set out to debunk and/or extol the virtues of drinking lemon water. The news is mostly sour.



Maybe it's the lemons. Maybe it's the water. Whatever the reason, lemon water is **hot shit** in the wellness world. It's become all the rage in the completely unsubstantiated world of Instagram **medicine**. Health bloggers have lauded it as an "**instant cure**" for everything from acne to joint inflammation. **Gisele Bündchen** starts her days with lemon water. Beyonce **said that** she's downed a gallon a day.

But what is lemon water, really? In technical terms, it's water with lemon in it.

The **claim** that lemon water boosts your metabolism is probably the most popular myth associated with the mystical citrus potion, but it's also been called

an **immunity booster**, a **digestive aid**, an adrenal gland **function optimizer**, and a **liver detoxifier**. We set out to debunk and/or extol the virtues of lemon water, separating the brilliant from the bogus. The news is mostly sour.

Does lemon water boost your metabolism and help you lose weight?

No, you're thinking of **regular water**.

Plain old water, with or without lemon, is a proven metabolic booster because it has no calories, but your body has to burn calories to heat it up and metabolize it, says **Niket Sonpal, a New York-based gastroenterologist and adjunct professor at Touro College of Osteopathic Medicine**. If the water is cold, researchers **found** that you may burn a few extra, but not many.

As for adding lemon to your water to boost your metabolism, **Sonpal** says the research just isn't there. A 2010 **study** by Japanese researchers showed that mice who had been programmed to be insulin-resistant (a precursor to diabetes) did show some weight loss when they were given the polyphenol antioxidants found in lemons. "Does that mean that for humans it'll have the exact same translation? We don't know and it hasn't been proven yet," **Sonpal** says.

He also points out that drinking regular water can give your stomach that feeling of fullness that triggers the brain to stop thinking you need to shove onion rings down your gullet. Also, it can aid in weight loss if it's being used to replace a decadent high-calorie coffee drink—but the lemon itself is not magically burning fat.

Okay, but I already ate the onion rings and now I need to digest them and lemon water helps with digestion right?

If you equate "help" with shitting your brains out you're in luck, cause lemon water actually *can* possibly help you do that.

"The idea of lemons helping with digestion is all from Ayurvedic medicine," **Sonpal** says. "As is the idea that sour things stimulate your gut to 'go.' What that really means is that Vitamin C in high doses is a laxative. It's not going to aid in digestion. If anything, it's going to make you poop a lot."

Sonpal says that the ascorbic acid (a.k.a. Vitamin C) in lemons is what makes them such great poop-inducers. In fact, it's often part of the concoction he gives patients who are prepping for the modern-day midlife right of passage: the colonoscopy.

Fine, but the lemon water will detoxify me, which will negate the effects of the onion rings, right?

Nope. Lemon water in the morning can't flush out the toxins from last night's gastropub binge. One more time for the people in the back: **Your body detoxes itself**—your liver, kidneys, colon, and your skin all do that for you. Sonpal says that **detoxifying yourself** by drinking **anything** just isn't a thing.

“[Humans] are not like a sink where you put stuff in and get clogged up and then you pour another thing in to flush everything out,” Sonpal says. “Our kidneys pee out things. Our colons poop out things. Our liver and kidneys filter things. By using water and combining that with lemon to ‘detoxify,’ it detoxifies nothing. It hydrates you and makes water taste better.”

Okay forget the onion rings. I'm just drinking lemon water because it boosts my immunity during cold and flu season.

You're thinking of vitamin C, and you're still off.

First of all, lemons do not have the market on vitamin C cornered. Other citrus fruits, cantaloupe, broccoli, kale, and many other foods are great sources of C, and there is no other special magic element in lemons that will keep you from getting a virus. Secondly, it's unlikely that vitamin C is going to boost your immunity very much either.

There is some **evidence** that taking vitamin C when you have a cold can reduce the intensity and duration by a small amount (about 8 percent for adults and 14 percent for children), but it's not an effective preventative measure against viruses. Vitamin C itself, Sonpal confirms, cannot cure a cold. “What it does is it reduces the amount of time you feel the illness,” he adds. “It doesn't reduce anything in terms of infectiveness. All it does is you start to feel better a little bit sooner.” That's something, to be fair.

There's **about 30 mg** of Vitamin C in every lemon and the **recommended daily amount** is 65 to 90 mgs. The study that showed the modest 8-14 percent reduction in cold intensity had subjects ingesting 1 to 2 g daily—that's 1,000 to 2,000 mg. According to a calculator we talked to, that means you'll need to consume the juice of about 33 lemons a day to get the benefit reported in the study.

Well, lemon water is acidic so it's going to alkalize my body, right?

Brace yourself: The whole concept of "alkalizing your body" is not a real thing. Your body itself has "very effective methods of regulating the pH in your blood," said Marc Hellerstein, professor of nutritional science and toxicology at University of California, Berkeley, in a **Tonic piece** about alkaline diets. "What you eat will not affect your blood pH, unless you're sick or have a bad kidney."

Your lungs and kidneys control your body's pH and you're not going to shift the needle by drinking lemon water (or anything, really). And again, unless you have very specific illnesses, changing your alkalinity isn't even a good thing.

I'm still going to drink it. It's not like it's going to do me any harm right?

Sure. Mostly. As long you're not super attached to your tooth enamel.

There can be increased sensitivity and tooth pain as a result of incorporating lemon water into your daily diets, says Lee Gause, a dentist in Manhattan and an adjunct professor at New York University's College of Dentistry—he's had multiple patients report it. That's because the acid in lemons can eat away at tooth enamel, the barrier that protects your teeth from feeling cold, heat, and pain in your oral nerves.

Gause suggests that if lemon water fans want to keep it as a regular part of their diet, they should engage in a post-lemon-water consumption rinsing regimen. "Always immediately rinse the teeth for at least 30 seconds to a minute with water, and then rinse your teeth for another 30 seconds with a mouth rinse that contains fluoride," he says. "What that will do is lay down a protective fluoride level on the teeth and that will decrease any sensitivity that might occur."

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